

to the exterior of the device, wherein a fluid path leading from the inlet, through the flow channel to the outlet passes beneath the permeable membrane portion of the floor of at least one well.

18. The device of claim **17**, wherein living cells are adhered to the underside of the permeable membrane forming the floor of at least one of the wells.

19. The device of claim **17**, which comprises at least two separate flow channels, wherein each of said flow channels is separated by the permeable membrane portion of the floor of a well from one well, or two wells, or three wells.

20. A method to use the device of claim **12**, which comprises placing living cells on a permeable membrane of the device, and contacting the living cells with fluid moving through a flow channel within the device.

* * * * *